OXIDIZED BIOPROSTHETIC MATERIALS

Abstract of the Disclosure

A method for chemical fixation of tissues by exposing the tissue to a chemical fixative agent, under oxidative conditions. The chemical fixative agents useable in this method include aldehydes (e.g., formaldehyde, glutaraldehyde, dialdehyde starch), isocyanates (e.g., hexamethylene diisocyanate) and certain polyepoxy compounds (e.g., DENACOL). The oxidative conditions may be provided by heating of a chemical fixative solution that contains the crosslinking agent, in the presence of room air or oxygen. Alternatively, the oxidative conditions may be provided by adding one or more oxidizing chemicals (e.g., hydrogen peroxide or other peroxides, sodium periodate or other periodates, diisocyanates, halogens, n-bromosuccinimide or other halogenated compounds, permanganates, ozone, chromic acid, sulfuryl chloride, sulfoxides, selenoxides, etc.) to the chemical fixative solution. Alternatively, the oxidative conditions may be provided by irradiation (e.g., alpha, beta, ultraviolet, electron beam, gamma rays) of the fixative solution in the presence of room air or oxygen.